

What is claimed is:

1. A hybrid clean-energy power-supply framework comprising:
 - a low-voltage feeder of a power plant, outputted from a substation transformer stepping down the utility power, self-installed by a general high-voltage client;
 - a distributing disc, an apparatus for feeding a hybrid clean-energy power-supply system, protecting shunt lines, and isolating the utility power of the power plant;
 - a power load, an internal low-voltage load of a client;
 - 10 an electrolyzing system, an apparatus that uses a DC power source to electrolyze water into hydrogen and oxygen;
 - an oxygen storage system, an apparatus for storing oxygen produced by water electrolyzing into a metal container;
 - a hydrogen storage system, an apparatus for storing hydrogen
 - 15 produced by water electrolyzing into a metal container;
 - a fuel cell power generating system, a DC power generating apparatus that uses hydrogen gas as fuel via a catalytic material selected from gold, silver, nickel, and the like to separate electrons in the fuel, and introduces said electrons to an end of the power load to form an electron flow;
 - 20 a photovoltaic system, a solar DC power generating apparatus that is composed of solar cells;
 - a wind power generating system, a DC power generating apparatus that uses wind energy to rotate the leaves of a wind power generator;
 - an energy conversion system, an apparatus that converts the direct
 - 25 voltage outputted from the fuel cell power generating system, the photovoltaic

system, and the wind power generating system into an alternating voltage for feeding the utility power;

an electricity monitoring system, comprising a central processing unit, an analog/digital input/output conversion interface, a voltage and current
5 sensor, and a display circuit, where said monitoring system, via checking signals, and by a calculation process controls the output power of said three power generating system respectively, and provides trigger-signals for apparatus protected;

said hybrid clean-energy power-supply framework integrating the fuel
10 cell power generating system, the photovoltaic system, and the wind power generating system, wherein said system converts direct current into alternating current via the energy conversion system and the electricity monitoring system.

2. The hybrid clean-energy power-supply framework of claim 1, wherein
15 said distributing disc comprises:

a no fuse breaker, protecting the conducting wire of said shunt lines from short circuit;

an electromagnetic switch, using a signal controlled by a digital switch of said central processing unit to conduct the coil of said electromagnetic
20 switch to make/break the load of said shunt lines belonging to said electromagnetic switch;

a potential transformer (P.T.) and a current transformer (C.T.), the potential and current signal sensed by said shunt lines being reduced to a certain percentage and sent to said central processing unit for calculation.

3. The hybrid clean-energy power-supply framework of claim 1, wherein two direct currents used by said electrolyzing system are introduced by two loops respectively, the first is supplied by the utility power during off-peak favorable pricing period, the second is supplied from the redundant electricity from the photovoltaic system and the wind power generating system after supply to the power load; all hydrogen gas produced from electrolyzing being used in the fuel cell power generation and part of oxygen gas produced from electrolyzing being used to react with hydrogen ions to form water and the other oxygen is stored for sale.

10 4. The hybrid clean-energy power-supply framework of claim 1, wherein said fuel cell power generating system comprises:

a fuel cell, an output power tracking, a flow control, a driving circuit of said fuel cell, a DC booster and a converter circuit of said fuel cell;

15 starting the fuel cell power generating system primarily for suppressing peak utilization and providing emergency source such that the output power tracking is calculated by a central processing unit that outputs a switching cycle command to the DC booster and converter circuit to adjust an intended conductance current, the average of said intended conductance current is multiplied by the output voltage of said fuel cell to obtain an output power of said fuel cell power generating system; and

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in order to match up the generating power, using a flow control mechanism, the flow and pressure of hydrogen and oxygen gas being adjusted to balance the fuel supply and achieve the optimal chemical reaction.

5. The hybrid clean-energy power-supply framework of claim 1, wherein said photovoltaic system comprises a solar cell, a max power tracking control, a driving circuit, a DC booster and a converter circuit; wherein said max power tracking control and driving circuit comprises a surpass sun mechanism and a max power extraction arithmetic unit, and the extracted max power of said solar cell is the max power generating efficiency since no need for fuel, said surpass sun mechanism adjusts solar cell plates and the angle of the solar cell plates perpendicular with the sunlight; due to the relationship between the output voltage and current of said solar cell proportional inversely and nonlinearly each other, using a central processing unit to handle the complex determination of voltage and current during extraction, after calculating said max power tracking, using an output of said central processing unit first to control the angle of the solar cell plates to obtain the highest insolation, and subsequently said central processing unit outputting a switching cycle command to modulate the inductance current of said DC booster and converter, the average of said inductance current multiplied by the output voltage of said solar cell to obtain said max output power of the solar cell power generating system.

6. The hybrid clean-energy power-supply framework of claim 1, wherein said wind power generating system comprises a wind power generator, a max power tracking control and driving circuit, a DC booster and converter circuit; wherein said max power tracking control and driving circuit comprises a windward mechanism and an arithmetic unit for extracting max power, and the extracted max power of wind power generator is the max power generating efficiency because only the thrust of wind force is required, and the output

power of a wind power generator is proportional with the three power of rotary speed, uses a central processing unit to create a mechanism of said max power tracking operation; said windward mechanism first controlling the angle of wind-leafs and an excitation voltage to obtain a max mechanical energy, and subsequently said central processing unit outputting a switching cycle command to modulate an inductance current of said DC booster and converter circuit, the average of said inductance current multiplied by the output voltage of said wind power generator to obtain said max output power of said wind power generating system; the present claim further comprising:
5 using a DC power generator directly, or using an AC power generator that converts AC into DC via an electronic circuit of electricity to replace said DC power generator.

7. The hybrid clean-energy power-supply framework of claim 1, wherein said energy conversion system comprises a power-factor correction and feed-in utility power control circuit, an inverter circuit, and an LC filter; the power command of the energy conversion system controlled by a central processing unit, as a DC signal, said power-factor correction and feed-in utility power control circuit converting said command into a AC sinusoidal current signal synchronized with the voltage of the utility power, and subsequently forming a pulse modulation signal after compared with a pyramidal wave, driving the four switches of said inverter and forcing the inductance current of said LC filter track said AC sinusoidal current signal synchronized with the voltage of the utility power, and feeding a direct current into the utility power for achieving the object of power-factor correction and improving the wave quality
15 of the AC voltage and raising the efficiency of the energy conversion system.
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